

CHUKA



UNIVERSITY

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EXAMINATION FOR THE AWARD OF DIPLOMA IN ANIMAL HEALTH AND PRODUCTION

ANHE 0228/0225: BASIC IMMUNOLOGY AND VACCINES

STREAMS: DIP INRE

DAY/DATE: THURSDAY 07/08/2025

TIME: 2 HOURS

2.30 P.M. –4.30 P.M

Answer question one and any other two questions in section B

SECTION A

QUESTION ONE (30 marks)

- a) Highlight the difference between the innate and adaptive immunity (4 marks)
- b) Define what is an allergen and give one example of an allergen (4 marks)
- c) Define what is an antibody and mention its functions (3 marks)
- d) You are stung by a bee, and the site becomes swollen and painful. Describe two chemicals that will be released to mediate this reaction and identify the class of antibody that is released during such an instance (4 marks)
- e) Outline the significance of a booster shot when vaccinating animals (2 marks)
- f) Highlight five precautions that are taken when storing vaccines to prevent spoilage (5 marks)
- g) List the various classes of lymphocytes (3 marks)
- h) Briefly outline the process of phagocytosis (5 marks)

SECTION B

QUESTION TWO (20 marks)

- a) The government intends to carry out national vaccination against Foot and Mouth Disease (FMD) in cattle. However, in some instances, an FMD disease outbreak might still occur even after vaccination. Discuss reasons why these outbreaks might happen (10 marks)
- b) Describe the classification of immune organs, giving examples (10 marks)

QUESTION THREE (20 marks)

- a) Discuss the different types of antigen-antibody reactions and outline their application in disease diagnosis (10 marks)
- b) Discuss the different classes of vaccines, giving one example of each (10 marks)

QUESTION FOUR (20 marks)

- a) Discuss the different classes of hypersensitivity. Give examples (12 marks)
 - b) Describe the routes of vaccine administration used in poultry, giving an example of various vaccines (8 marks)
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